SANTA CRUZ BIOTECHNOLOGY, INC.

Slac2-c siRNA (m): sc-63039

BACKGROUND

Slac2-c (slp homolog lacking C2 domains c), also known as SLAC2C or MYRIP (Myosin-VIIa- and Rab-interacting protein) is a Rab effector protein that is expressed in a variety of tissues including brain, heart, skin and liver. Found in the basal microvilli of retinal pigment cells and in pre- and post-synaptic areas in photoreceptor cells, Slac2-c is involved in melanosome transport and functions to link Rab 27a with the Actin-based motor proteins Myosin Va and Myosin VIIa. Once linked, the Myosins are able to transport Rab 27a to retinal melanosomes, thereby linking the Actin cytoskeleton with the melanosome membrane. Slac2-c contains one FYVE-type zinc finger and one Rab-binding domain and is able to bind Actin-like proteins through its conserved C-terminal region. Additionally, Slac2-c is thought to regulate the final steps of insulin exocytosis by mediating the interaction of secretory granules with the cortical Actin cytoskeleton.

REFERENCES

1. El-Amraoui, A., Schonn, J.S., Küssel-Andermann, P., Blanchard, S., Desnos, C., Henry, J.P., Wolfrum, U., Darchen, F. and Petit, C. 2002. MyRIP, a novel Rab effector, enables Myosin VIIa recruitment to retinal melanosomes. EMBO Rep. 3: 463-470.
2. Fukuda, M. and Kuroda, T.S. 2002. Slac2-c (synaptotagmin-like protein homologue lacking C2 domains-c), a novel linker protein that interacts with Rab 27, Myosin Va/VIIa, and Actin. J. Biol. Chem. 277: 43096-43103.
3. Waselle, L., Coppola, T., Fukuda, M., Iezzi, M., El-Amraoui, A., Petit, C. and Regazzi, R. 2003. Involvement of the Rab 27 binding protein Slac2-c/MyRIP in insulin exocytosis. Mol. Biol. Cell 14: 4103-4113.
4. Kuroda, T.S. and Fukuda, M. 2005. Functional analysis of Slac2-c/MyRIP as a linker protein between melanosomes and Myosin VIIa. J. Biol. Chem. 280: 28015-28022.
5. Ivarsson, R., Jing, X., Waselle, L., Regazzi, R. and Renström, E. 2005. Myosin 5a controls insulin granule recruitment during late-phase secretion. Traffic 6: 1027-1035.
6. Kuroda, T.S. and Fukuda, M. 2005. Identification and biochemical analysis of Slac2-c/MyRIP as a Rab 27a-, Myosin Va/VIIa-, and Actin-binding protein. Meth. Enzymol. 403: 431-444.
7. Klomp, A.E., Teofilo, K., Legacki, E. and Williams, D.S. 2007. Analysis of the linkage of MYRIP and MYO7A to melanosomes by Rab 27a in retinal pigment epithelial cells. Cell Motil. Cytoskeleton 64: 474-487.
8. Lopes, V.S., Ramalho, J.S., Owen, D.M., Karl, M.O., Strauss, O., Futter, C.E. and Seabra, M.C. 2007. The ternary Rab 27a-Myrip-Myosin VIIa complex regulates melanosome motility in the retinal pigment epithelium. Traffic 8: 486-499.
9. Goehring, A.S., Pedroja, B.S., Hinke, S.A., Langeberg, L.K. and Scott, J.D. 2007. MyRIP anchors protein kinase A to the exocyst complex. J. Biol. Chem. 282: 33155-33167.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: Myrip (mouse) mapping to 9 F4.

PRODUCT

Slac2-c siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Slac2-c shRNA Plasmid (m): sc-63039-SH and Slac2-c shRNA (m) Lentiviral Particles: sc-63039-V as alternate gene silencing products.

For independent verification of Slac2-c (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63039A, sc-63039B and sc-63039C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Slac2-c siRNA (m) is recommended for the inhibition of Slac2-c expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Slac2-c gene expression knockdown using RT-PCR Primer: Slac2-c (m)-PR: sc-63039-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.